

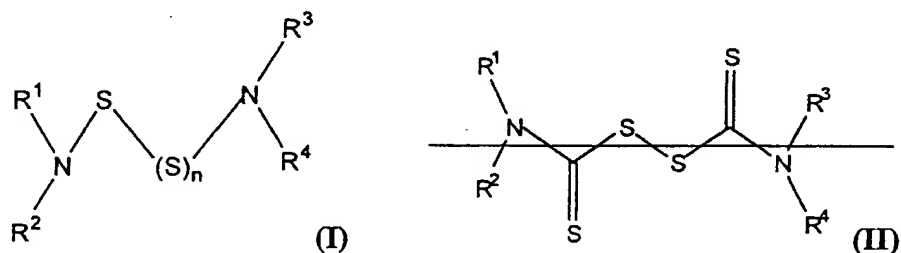
Appl. No. 09/763,616
Amendment dated: April 21, 2005
Reply to OA of: October 20, 2004

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

Claims 1-12(canceled).

13 (currently amended) A method of treating a disease condition caused or exacerbated by an [[MPV]] HPV ~~which is~~ wherein said disease condition is cervical cancer or precursor lesions thereof, asymptomatic infections of the cervix and genital, common, plantar or planar warts, comprising the administration to a mammal in need thereof of an effective amount of a compound which facilitates the disruption of a chelated metal cation domain of a protein encoded for by an MPV gene, wherein the compound is selected from the group of compounds consisting of formulae (I) and (II):



wherein

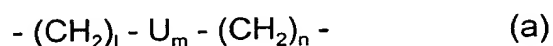
n is selected from 1-5

R¹ - R⁴ are independently selected from the group consisting of hydrogen, optionally substituted alkyl, optionally substituted alkenyl, optionally substituted alkynyl, optionally substituted aryl, optionally substituted arylalkyl optionally substituted acyl, optionally

Appl. No. 09/763,616
Amendment dated: April 19, 2005
Reply to OA of: October 20, 2004

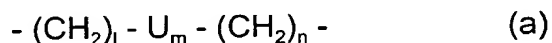
substituted heterocyclyl, halo alkyl, arylalkyl, carboxy, carboxy ester and carboxamido;
or

R¹ and R² together, and/or R³ and R⁴ together, independently form a group of formula
(a):



wherein: U is CH₂, O, NH or S;
l and n are independently selected from 0 to 6 and m is 0 or 1 when U is CH₂ and m is 1 when U is O, NH or S, such that
l + m + n is greater than or equal to 2;
and wherein any one or more (CH₂) or NH groups may be further optionally substituted or a pharmaceutically acceptable derivative thereof;
~~with the proviso that the compound cannot be disulfiram.~~

14(original). A method according to claim 13 wherein R¹ and R² together, and/or R³ and R⁴ together, independently form a group of formula (a):



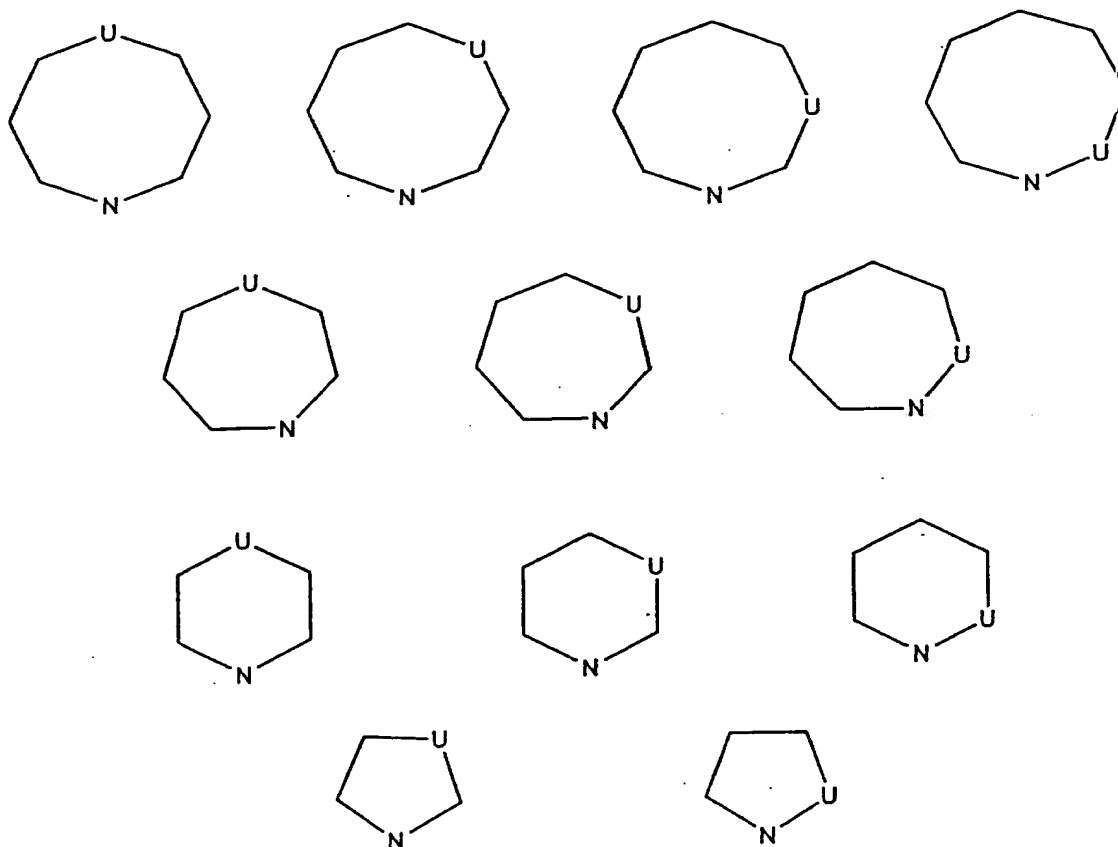
wherein: U is selected from CH₂, O, NH or S;
l and n are independently selected from 0 to 6 and m is 0 or 1 when U is CH₂ and m is 1 when U is O, NH or S, such that
l + m + n is greater than or equal to 2;
and wherein any one or more (CH₂) or NH groups may be further optionally substituted.

15(Original). A method according to claim 14 wherein U is CH₂.

16(previously presented). A method according to claim 15 wherein formula (a) is selected from the group consisting of $-(CH_2)_2^-$, $-(CH_2)_3^-$, $-(CH_2)_4^-$, $-(CH_2)_5^-$, $-(CH_2)_6^-$ and $-(CH_2)_7^-$.

17(original). A method according to claim 14 wherein U is NH, O, or S and m is 1.

18(previously presented). A method according to claim 14 wherein R_1 and R_2 , and/or R_3 and R_4 , together with the nitrogen to which they are attached independently form a group selected from the group consisting of:



which may be optionally substituted at a carbon atom, and/or where U is NH, at the nitrogen atom.

Appl. No. 09/763,616
Amendment dated: April 19, 2005
Reply to OA of: October 20, 2004

19(original). A method according to claim 18 wherein R_1 and R_2 , and/or R_3 and R_4 , together with the nitrogen to which they are attached each independently form an optionally substituted morpholino, thiomorpholino, or piperazino group.

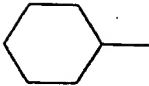
20(previously presented). A method according to claim 14 wherein any $-CH_2-$ group of formula (a) is optionally substituted by one or more of the groups selected from the group consisting of methyl, ethyl, n-propyl, iso-propyl, hydroxy, halo, methoxy, ethoxy, iso-propoxy, acetoxy, optionally substituted benzyl, optionally substituted pyridyl, optionally substituted pyrimidyl and optionally substituted phenyl.

21(previously presented). A method according to claim 13 wherein at least one of $R^1 - R^4$ is independently selected from the group consisting of: hydrogen, optionally substituted phenyl, optionally substituted cyclopropyl, optionally substituted cyclobutyl, optionally substituted cyclopentyl, and optionally substituted cyclohexyl, formyl, acetyl.

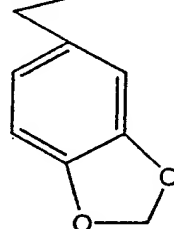
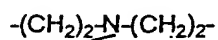
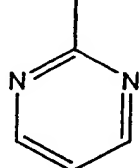
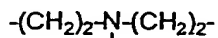
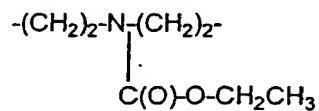
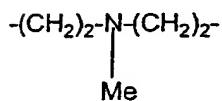
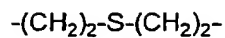
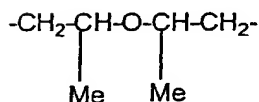
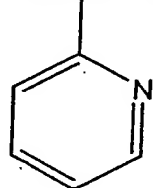
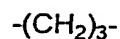
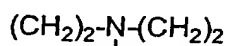
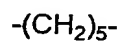
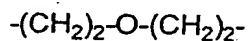
22(previously presented). A method according to claim 20 wherein the optional substituent is selected from the group consisting of methyl, ethyl, n-propyl, iso-propyl, hydroxy, halo, methoxy, ethoxy, iso-propoxy, acetoxy, and phenyl.

23(previously presented). A method according to claim 13 wherein at least one of $R^1 - R^4$ is selected from the group consisting of:

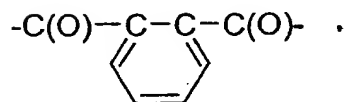
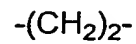
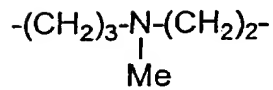
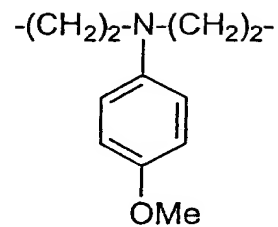
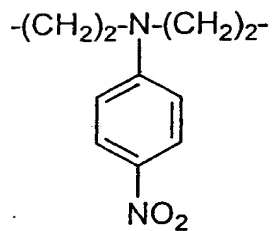
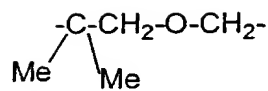
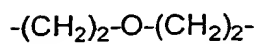
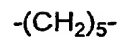
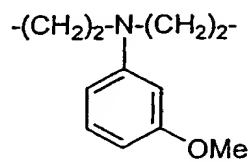
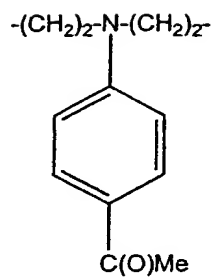
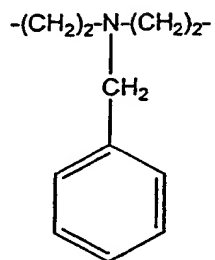
Appl. No. 09/763,616
 Amendment dated: April 19, 2005
 Reply to OA of: October 20, 2004

$-\text{CH}_2\text{-Ph}$, $-\text{CH}_2\text{-C(O)-O-CH}_2\text{CH}_3$, $-\text{C(O)H}$, $-\text{CH}_2\text{-CH}_3$ and  or

R^1 and R^2 together and/or R^3 and R^4 together independently form a group selected from the group consisting of:



Appl. No. 09/763,616
 Amendment dated: April 19, 2005
 Reply to OA of: October 20, 2004



Appl. No. 09/763,616
Amendment dated: April 21, 2005
Reply to OA of: October 20, 2004

24(currently amended). A method according to claim 13 wherein n is ~~selected from 1, 2 or 3, preferably 1 or 2.~~

25(cancelled).

26(cancelled).

27(currently amended). A method according to claim ~~[[26]]~~ 13 wherein the HPV is HPV-16.

28(original). A method according to claim 27 wherein the protein is the HPV-16 E6 or E7 oncoprotein.

29(currently amended). A method according to claim ~~[[26]]~~ 13 wherein the HPV is HPV-18.

30(original). A method according to claim 29 wherein the protein is the HPV-18 E6 or E7 oncoprotein.

31(original). A method according to claim 13 where the chelated metal cation domain is a chelated zinc cation domain.

32(previously presented). A method according to claim 31 wherein the chelated zinc domain is the sequence motif cys-X2-cys-X29-cys-X2-cys (SEQ ID NO:2).

33(currently amended). A method of treating a disease condition caused or exacerbated by an ~~[[MPV]]~~ HPV which is cervical cancer or precursor lesions thereof, asymptomatic infections of the cervix and genital, common, plantar or planar warts

Appl. No. 09/763,616
Amendment dated: April 19, 2005
Reply to OA of: October 20, 2004

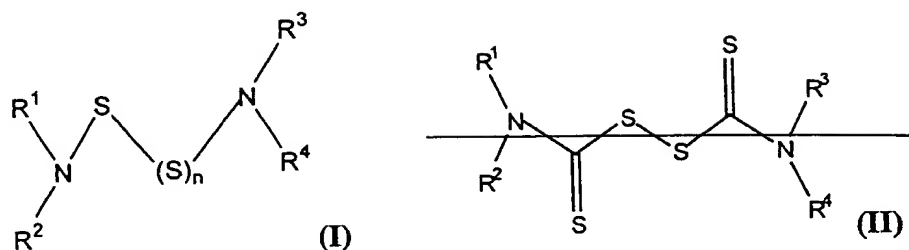
comprising the administration of an effective amount of a compound as defined in claim 13 to a mammal in need thereof.

34(previously presented). A method according to claim 13 wherein the compound is capable of effecting at least 30% zinc release in a TSQ assay and/or inhibits or reduces the binding of an E6 protein to E6AP or E6BP and/or exhibits selective cytotoxicity towards MPV-infected cells.

35(currently amended). A method according to claim 13 wherein the disease or condition is cervical cancer or its HPV associated precursor lesions ~~or any other HPV associated cancers and/or warts.~~

Claims 36-39(canceled).

40(currently amended). A method of treating a disease condition caused or exacerbated by an ~~[[MPV]]~~ HPV and which is cervical cancer or precursor lesions thereof, asymptomatic infections of the cervix and genital, common, plantar or planar warts comprising the administration of an effective amount of a compound capable of facilitating the disruption of a chelated metal cation domain of a protein encoded for by an MPV gene to a mammal in need thereof, wherein said compound is a compound identified as a compound useful in the treatment of a disease or condition caused or exacerbated by an ~~[[MPV]]~~ HPV by a method which comprises contacting a protein molecule containing a chelated metal cation domain, encoded by an MPV gene, with an effective amount of said compound for a time and under conditions sufficient to facilitate disruption of the chelated metal cation domain and directly or indirectly determining the amount of chelated metal cation released wherein the amount of chelated metal cation released is indicative of the disruption of the chelated metal cation domain wherein the compound is selected from the group of compounds consisting of formulae (I) ~~and (II)~~:

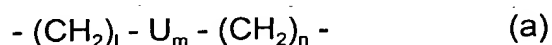


wherein

n is selected from 1-5

R¹ - R⁴ are independently selected from the group consisting of hydrogen, optionally substituted alkyl, optionally substituted alkenyl, optionally substituted alkynyl, optionally substituted aryl, optionally substituted arylalkyl optionally substituted acyl, optionally substituted heterocyclyl, halo alkyl, arylalkyl, carboxy, carboxy ester and carboxamido; or

R¹ and R² together, and/or R³ and R⁴ together, independently form a group of formula (a):



wherein: U is CH₂, O, NH or S;

l and n are independently selected from 0 to 6 and m is 0 or 1 when U is CH₂ and m is 1 when U is O, NH or S, such that

l + m + n is greater than or equal to 2;

and wherein any one or more (CH₂) or NH groups may be further optionally substituted or a pharmaceutically acceptable derivative thereof; ~~with the proviso that the compound cannot be disulfiram.~~

Appl. No. 09/763,616

Amendment dated: April 21, 2005

Reply to OA of: October 20, 2004

41(previously presented). The method according to claim 13 wherein the compound is 4,4-dithiodimorpholine.

42(new). A method according to claim 13 wherein n is 1 or 2.